

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

<b>In Re Application of:</b>	Andrew D. Bicek and Timothy S. Girton
<b>Application No.:</b>	10/058,640
<b>Filed:</b>	January 28, 2002
<b>For:</b>	STENT WITH WISHBONE CONNECTORS AND SERPENTINE BANDS
<b>Examiner:</b>	Kamrin R. Landrem
<b>Group Art Unit:</b>	3738

**Docket No.:** S63.2-10015

**BRIEF ON APPEAL**

This is a Brief on Appeal for the above-identified application in which pending claims 1, 2, 4, 5, 8-11, 13, 14, and 17-22 were rejected in an Advisory Action mailed December 17, 2004. Claims 1, 2, 4, 5, 8-11, 13, 14, and 17-22 are pending in the application.

A Notice of Appeal was filed in this case on March 4, 2005. The fees required under §1.17(c) for filing this brief were addressed in the Notice of Appeal. The Commissioner is authorized to charge Deposit Account No. 22-0350 for any other fees which may be due with this Appeal.

05/19/2005 MAHME1 00000053 10058640

01 FC:1401 500.00 OP

Void date: 05/19/2005 SLUANG1

05/19/2005 MAHME1 00000053 10058640

01 FC:1401 -500.00 OP

05/19/2005 SLUANG1 00000004 10058640

01 FC:1402 500.00 OP

**(i) Real Party in Interest**

The application is assigned to Boston Scientific Scimed, Inc., formerly known as Scimed Life Systems, Inc., One SciMed Place, Maple Grove, MN 55311-1566, a Minnesota Corporation and a subsidiary of Boston Scientific Corporation, One Boston Scientific Place, Natick, Massachusetts, 01760-1537, a Delaware Corporation.

**(ii) Related Appeals and Interferences**

None.

**(iii) Status of Claims**

Claims 6 and 15 have been canceled. Claims 3, 7, 12 and 16, have been withdrawn. Claims 1, 2, 4, 5, 8-11, 13, 14, and 17-22 are pending in the application and have been finally rejected and are the subject of this appeal.

**(iv) Status of Amendments**

Subsequent to the Final Office Action of September 10, 2004, a Response After Final and Request for Reconsideration was filed on December 1, 2004. In the Response After Final no amendments were made to the claims.

**(v) Summary of Claimed Subject Matter**

A summary of representative independent claims, as well as those dependent claims to which separate arguments are being presented, as required by 37 C.F.R..

§41.37(c)(1)(v), and a non-limiting listing of locations where support may be found [bracketed citations] is provided as follows:

**Claim 1** is directed to a stent having a proximal end and a distal end, wherein the stent comprises a plurality of axially spaced serpentine bands and a plurality of wishbone connectors [page 2, lines 1-7]. Each serpentine band has a proximal and distal end and consists of a plurality of interconnected struts [page 2, lines 2-4]. The struts are of substantially the same length [page 2, lines 4]. Serpentine bands which are adjacent one another are connected one to the other [page 2, lines 4-5].

Each wishbone connector connects two serpentine bands which are adjacent one another and has an elongate portion which is disposed between the two serpentine bands and does not overlap longitudinally with either of the two serpentine bands [page 2, lines 5-9]. The proximal end of the elongate portion has two legs extending therefrom to one of the two serpentine bands and the distal end of the elongate portion has two legs extending therefrom to the other of the two serpentine bands [page 2, lines 10-12]. The two legs extending from the proximal end of the elongate portion of each wishbone connector are circumferentially and longitudinally displaced from the two legs extending from the distal end of the elongate portion of the wishbone connector [page 2, lines 23-26].

At least one wishbone connector connects serpentine bands which are adjacent one another [page 2, lines 12-13].

**Claim 8** is directed to the stent described in claim 1 wherein each serpentine band comprises alternating peaks and troughs, wherein the number of peaks in the stent are twice the number of wishbone connectors [page 2, lines 15-16].

**Claim 9** is directed to the stent described in claim 1 wherein the width of the serpentine bands exceeds the width of the wishbone connectors [page 2, lines 30-31].

**Claim 10** is directed to a stent having a first proximal end and a distal end, wherein the stent comprises a plurality of axially spaced serpentine bands and a plurality of wishbone connectors [page 2, lines 32; through page 3, line 5]. Each serpentine band has a proximal end and a distal end, and a plurality of peaks and troughs, wherein all of the peaks are longitudinally aligned with one another and all of the troughs are longitudinally aligned with one another [page 3, lines 1-3]. Serpentine bands which are adjacent one another are connected one to the other [page 3, lines 3-4].

Each wishbone connector connects two serpentine bands which are adjacent one another and has an elongate portion which is disposed between the two serpentine bands and does not overlap longitudinally with either of the two serpentine bands [ page 3, lines 5-8]. The proximal end of the elongate portion has two legs extending therefrom to one of the two serpentine bands, and the distal end of the elongate portion has two legs extending therefrom to the other of the two serpentine bands [page 3, lines 8-10]. The two legs extending from the proximal end of the elongate portion of each wishbone connector are circumferentially and longitudinally displaced from the two legs extending from the distal end of the elongate portion of the wishbone connector [page 3, lines 21-24].

At least one wishbone connector connects serpentine bands which are adjacent one another [page 3, lines 11-12].

**Claim 17** is directed to the stent described in claim 10 wherein each serpentine band comprises alternating peaks and troughs and the number of peaks in the stent being twice the number of wishbone connectors [page 3, lines 13-15].

**Claim 18** is directed to a stent comprising a plurality of first and second alternating serpentine bands, wherein the first serpentine bands are of one geometry and the second serpentine bands are of a geometry different than the first serpentine bands [page 3, lines 28-31]. Each of the first and second serpentine bands has a proximal end and a distal end [page 3, lines 31]. Each second serpentine band is connected to one proximally adjacent first serpentine band via a plurality of first connectors and to one distally adjacent first serpentine band via a plurality of second connectors [page 3, lines 32 through page 4, line1].

Each second serpentine band is characterized by a repeating pattern of two or more consecutive first connectors extending distally from the second serpentine band followed by two or more second connectors extending proximally from the second serpentine band [page 4, lines 1-4]. The two or more first connectors are circumferentially and longitudinally offset from the two or more second connectors [see figure 5].

**(vi) Grounds of Rejection to be Reviewed on Appeal**

I. Whether the Examiner erred in rejecting claims 1, 2, 4, 5, 10, 11, 13 and 14 under 35 U.S.C. § 102(b), as being anticipated by U.S. 5,935,162 to Dang (hereinafter: Dang).

II. Whether the Examiner erred in rejecting claims 8, 9, and 17 under 35 U.S.C. §103(a) as being obvious over Dang in view of U.S. 6,019,789 to Dinh et al (hereinafter: Dinh).

III. Whether the Examiner erred in rejecting claims 18-22 under 35 U.S.C. §103(a) as being obvious over Dinh in view of Dang.

**(vii) Argument**

I. The Examiner erred in rejecting claims 1, 2, 4, 5, 10, 11, 13 and 14 under 35 U.S.C. § 102(b), as being anticipated by Dang.

Applicants disagree with the assertion set forth by the Examiner that Dang anticipates all of the elements of the instant claims.

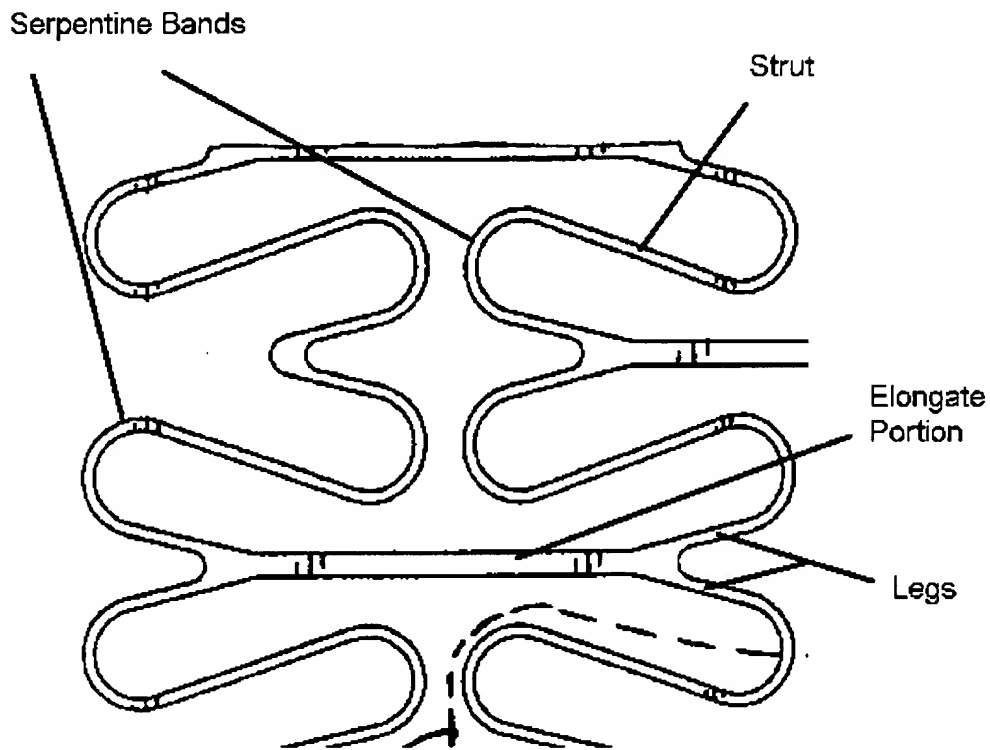
**Regarding Independent Claim 1 and Those Claims Dependent Therefrom**

In the Final Office Action, the Examiner asserts that the instant claims are anticipated by Dang and points specifically to figures 2 and 7 of the Dang reference to support this assertion.

In regard to claims 1, and those claims depending therefrom, Applicants respectfully assert that Dang does not teach or suggest all of the elements of the instant claims.

In instant claim 1 it is recited that each of the serpentine bands *consists* of a plurality of interconnected struts of substantially the same length. It is recognized in the practice of claim drafting that the use of transitional phrases like “consisting of” or in this case “consists” excludes the inclusion of elements not specifically recited (see *In re Gray*, 53 F.2d 520, 11 USPQ 255 (CCPA 1931), and *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948)). Thus in the accordance with the recitation of the instant claim the bands are made up of *only* interconnected struts of substantially the same length.

In the Final Office Action the Examiner provided an interpretation of FIG. 2 of Dang wherein each band was shown having struts of substantially the same length. A portion of FIG. 2 of Dang is provided below:



In this interpretation however, the bands consist of not only struts of substantially the same length but also the extraneous features of the 'legs' of each wishbone connector, which are necessary to interconnect the struts to form a given band. The bands of Dang therefore, cannot be said to *consist* of a plurality of interconnected struts of substantially the same length as the instant claim recites, because the bands must *also* include the structure of the legs of the wishbone connectors in order for adjacent struts of the same band to interconnect.

In addition to the above, the Dang stent also fails to include wishbone connectors that have elongate portions, which *do not overlap longitudinally* with either of the two serpentine bands which it connects as the present claims describe. As shown in FIG. 2 of Dang each of the bands connected by a connector longitudinally overlap the elongate portion of the connector in contrast to the recitation of the instant claims.

In the Advisory Action of December 17, 2004, however, it was asserted for the first time in prosecution that the claimed feature of an “elongate portion that does not overlap longitudinally” is a feature that is not disclosed in the elected species of FIGs. 5 and 6 but rather only in the restricted species of FIGs. 1-4 (for reference please see the Response to Restriction Requirement, dated July 7, 2003). Applicants respectfully submit that this assertion is in error.

FIG. 2 from the present Application is reprinted below. It is clear that element 114 (i.e. an elongate portion of the wishbone connector) does not overlap longitudinally with either of the two serpentine bands which it connects.

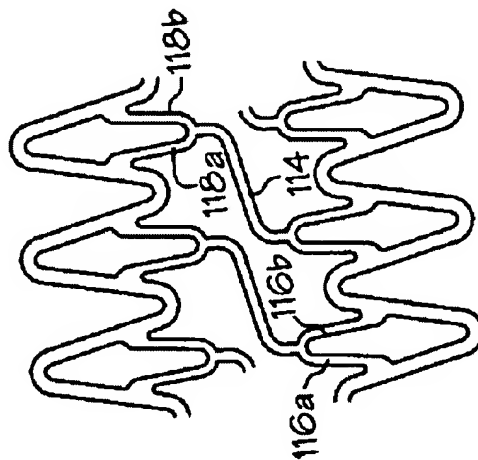


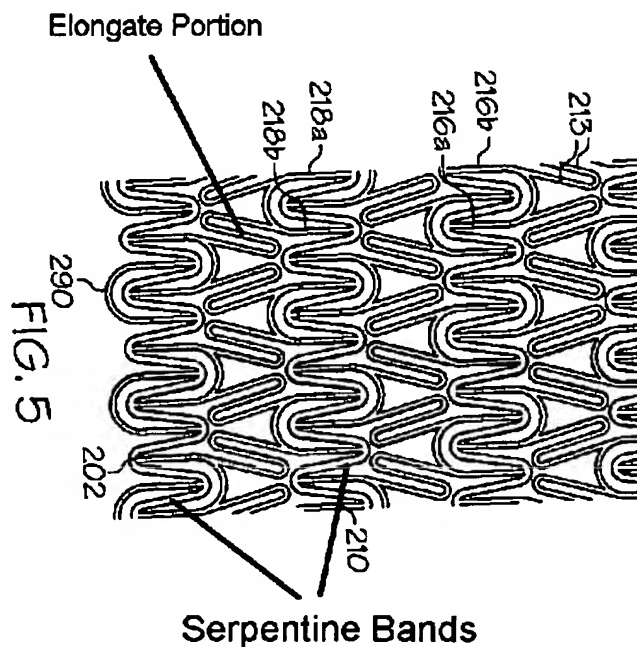
FIG. 2



Based on the comments of the Advisory Action, the Examiner appears to acknowledge that the ‘species’ represented by FIG. 2 does in fact support the presence of an “elongate portion that does not overlap longitudinally with either of the serpentine bands that it connects” as the instant claim recites.

While the ‘species’ (as asserted by the Examiner) of FIGs. 1-4 include specific reference to the elongate portion 114, which does not overlap longitudinally with either of the two serpentine bands which it connects, the ‘species’ of FIGs. 5 and 6 also include elongate portions of a wishbone connector, which do not overlap longitudinally with either of the two serpentine bands which they connect.

For example, in the partial view of FIG. 5 of the present Application reprinted below, it is shown that the stent can be characterized as having a wishbone connector with elongate portions. Each of these portions, including their ends, do not overlap longitudinally with either of the two serpentine bands which they connect.



Upon review of all of the figures of the instant application it is readily apparent that all of the various species depicted therein can be characterized as having wishbone connectors that include elongate portions having the features described in instant claim 1.

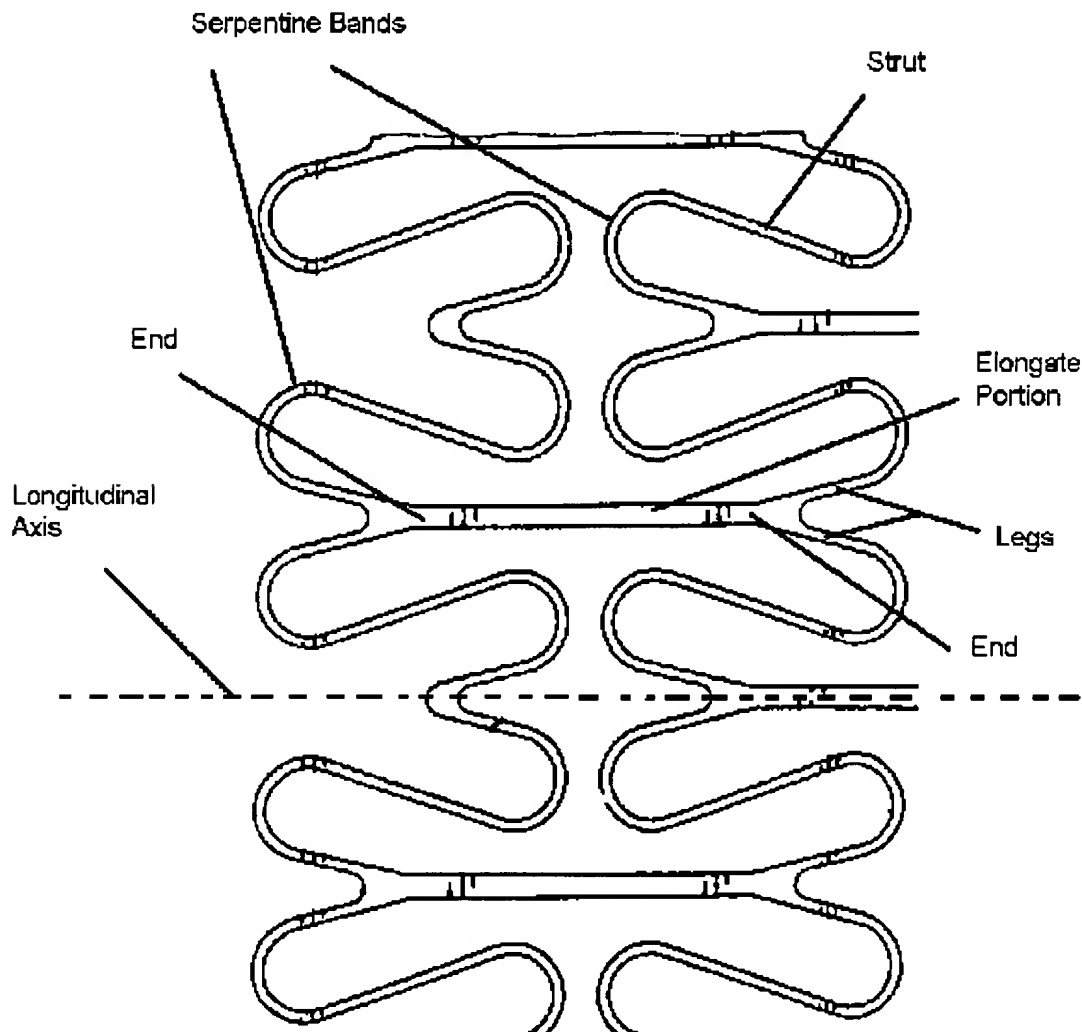
It is therefore the Applicants position that the elected species of figures 5 and 6 provide support for the claimed element of an elongate portion, which is disposed between the two serpentine bands and does not overlap longitudinally with either of the two serpentine bands.

In addition to the above, however, the Advisory Action also stated that the “Examiner broadly interpreted the recitation of ‘elongate portion that does not overlap longitudinally’...Therefore the elongate portion of Dang does not overlap, or extend past and cover part of, the struts that that comprise the adjacent serpentine bands.”

While a broad interpretation of claim language may be appropriate, it must be emphasized that in the instant claims the elongate portion is described having a variety of characteristics in addition to the feature of not overlapping longitudinally with either of the two serpentine bands which it connects.

In summary instant claim 1 further recites the following in regard to the elongate portion: the proximal end of the elongate portion has two legs extending therefrom to one of the two serpentine bands; the distal end of the elongate portion has two legs extending therefrom to the other of the two serpentine bands; the two legs extending from the proximal end of the elongate portion of each wishbone connector are circumferentially and longitudinally displaced from the two legs extending from the distal end of the elongate portion of the wishbone connector.

When all of the features recited in the instant claim are considered it is clear that Dang does not include all of the features of the instant claims. Reprinted below is a further annotated portion of FIG. 2 of Dang.



As the above figure makes clear, if Dang is interpreted to have serpentine bands which consist of struts of substantially the same length, as the instant claim recites, then the stent of Dang cannot be interpreted to include two legs extending from each end of the elongate connector, as such legs must inherently be a part of the struts which the bands consist of.

Alternatively, if Dang is interpreted to have a wishbone connector, regardless of the make up of the bands, it is clear from the above depiction that at least the ends of the elongate portion of the connector longitudinally overlap the adjacent serpentine bands which they respectively connect.

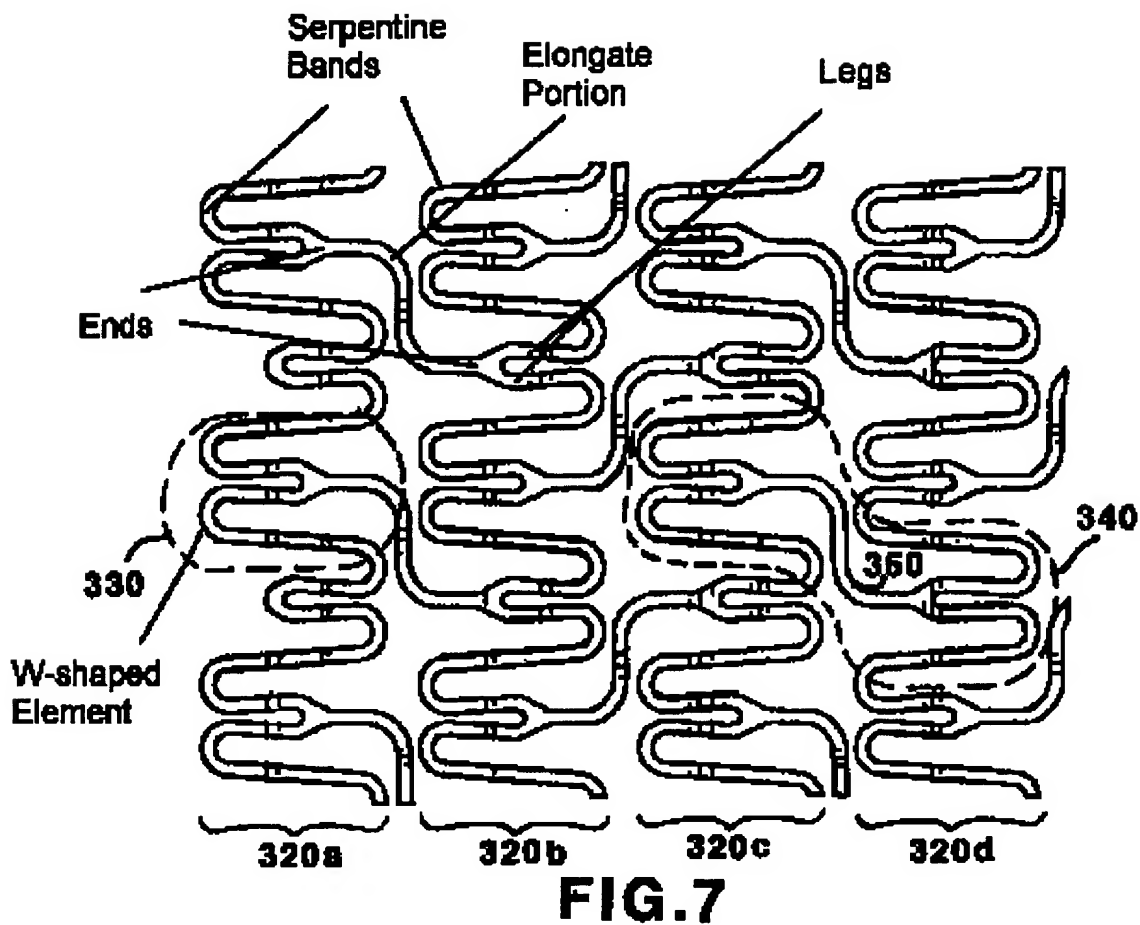
For at least these reasons Dang fails to anticipate claim 1 and those claims which depend therefrom. Applicants respectfully request that the §102 rejection to claim 1, and those claims dependent therefrom, be withdrawn.

**Regarding Independent Claim 10 and Those Claims Dependent Therefrom**

Turning now to instant claim 10, and those claims depending therefrom, instant claim 10 also describes a stent having a plurality of wishbone connectors, wherein the elongate portion of a connector, which is disposed between two serpentine bands, wherein the elongate portion ***does not overlap longitudinally*** with either of the two serpentine bands. As discussed above, in the stent of Dang each of the bands connected by a wishbone connector longitudinally overlap the elongate portion of the connector in contrast to the recitation of the instant claims.

Instant claim 10 also describes that the two legs extending from the proximal end of the elongate portion are ***circumferentially and longitudinally*** displaced from the two legs extending from the distal end of the elongate portion. As discussed above, Dang fails to disclose such a relationship between the legs at the opposing ends of the elongate connectors.

In the Advisory Action, the Examiner points to FIG. 7 of Dang as teaching “legs of the elongate portion that are circumferentially and longitudinally offset”. Applicants respectfully assert that nowhere in Dang, including FIG. 7, is such a feature shown, described or otherwise disclosed. An annotated copy of FIG. 7 of Dang is reprinted below:



In FIG. 7 of Dang, the stent shown therein is said to include cylindrical sections (320a-d, see column 8, lines 2-12). As cylindrical sections, these structures form a continuous “perimeter or circumference” (*Id* at lines 10-11). In the interpretation presented in the Final Office Action, such structures are apparently being considered by the Examiner to be the “plurality of axially spaced serpentine bands” as instant claim 10 recites. If such an interpretation is made, then it is clear that the “W-shaped elements” 330 must be part of a given band. As part of the band, these elements cannot be considered to be portions of a connector (i.e. “two legs” as recited in instant claim 10) that connects the serpentine band...since the elements

are actually the band itself as shown above. If, on the other hand the elements 330 or merely portions thereof, are considered to be extraneous or separate from the band, then the band ceases to exist and is replaced by a series of disconnected elements separated by portions of element 330.

Thus, if Dang is interpreted to have serpentine bands, Dang cannot also be selective viewed to have wishbone connectors having all of the features required by the instant claims. On the other hand, if the middle region of elements 330 are interpreted to be two legs of a wishbone connector, then Dang cannot be said to have the recited feature of serpentine bands.

In light of the failure of Dang to teach or suggest all of the elements of instant claim 10 Applicants respectfully request that the §102 rejection to claim 10, and those claims dependent therefrom, be withdrawn.

**II.** The Examiner erred in rejecting claims 8, 9 and 17 under 35 U.S.C. §103(a) as being obvious over Dang in view of Dinh.

Applicants disagree with the assertion set forth by the Examiner that the instant claims are obvious over Dang in view of Dinh.

In the Final Office Action, Dinh was cited as providing the stated peak to wishbone ratio of instant claims 8 and 17 as well as the provision of bands having a width which exceeds the width of the wishbone connectors, as described in instant claim 9.

The proposed inclusion of the selected elements of Dinh however, does nothing to address the failure of Dang to teach or suggest all of the elements of the instant claims. As discussed above, Dang does not teach or suggest a wishbone connector wherein the two legs

extending from the proximal end of the elongate portion are *circumferentially and longitudinally* displaced from the two legs extending from the distal end of the elongate portion, and wherein the elongate portion of a connector, which is disposed between two serpentine bands *does not overlap longitudinally* with either of the two serpentine bands. Dinh also fails to teach or suggest a stent having such features. Thus, even if some motivation can be found to combine the references in the manner proposed in the Final Office Action, such a combination does not address the failure of Dang alone to teach or suggest all of the elements of the instant claims.

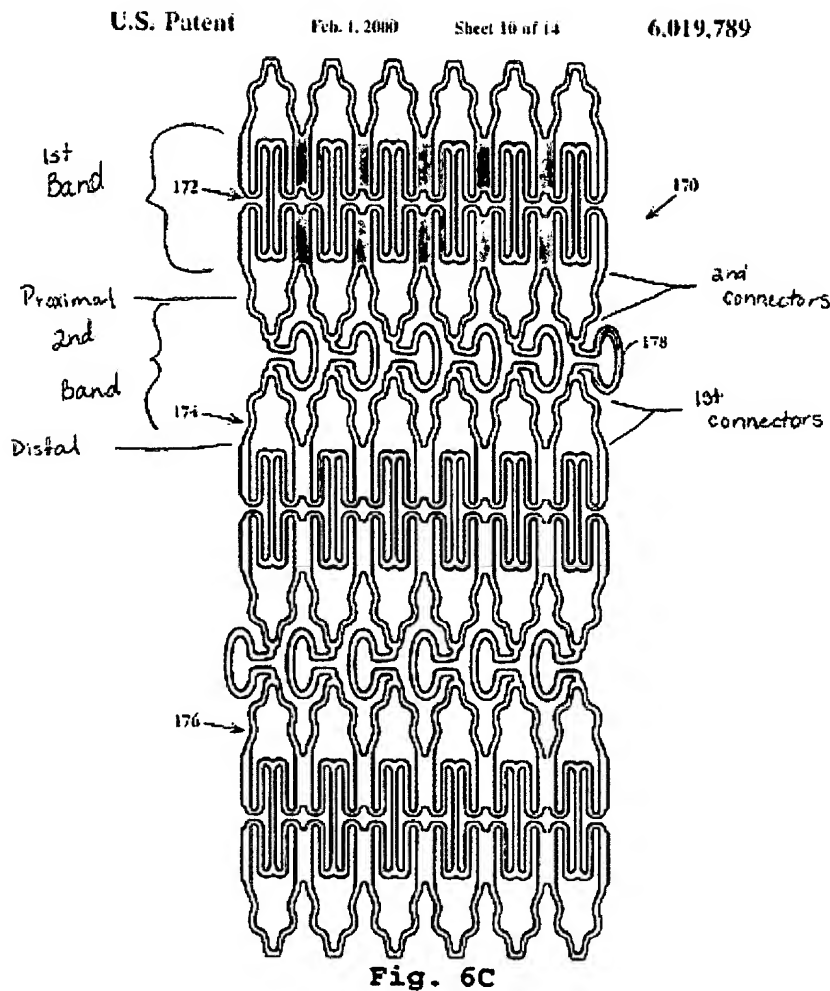
In light of the above Applicants respectfully request that the §103 rejection to claims 8, 9, 17 be withdrawn.

**III.** The Examiner erred in rejecting claims 18-22 under 35 U.S.C. §103(a) as being obvious over Dinh in view of Dang.

Applicants disagree with the assertion set forth by the Examiner that the instant claims are obvious over Dinh in view of Dang.

In the Final Office Action the Examiner asserts that Dinh discloses a stent having all of the features of the instant claims, but fails to disclose that the two or more first connectors are circumferentially and longitudinally offset from the two or more second connectors. FIG. 7 of Dang is cited as teaching a stent having connectors, which have ends that are circumferentially and longitudinally offset in order to provide the stent with longitudinal flexibility.

In comparing the features of Dinh to those recited in instant claim 18 the Examiner provided an annotated copy of FIG. 6C of Dinh, which is reprinted herewith:



According to the Examiner's interpretation, as set forth in the Final Office Action, FIG. 6C of Dinh, as presented above, shows the recited claim limitation of first and second serpentine bands having different geometries by the presence of band 172 and 178 as marked.

Applicants respectfully assert however, that the "serpentine bands" identified by the Examiner are neither "serpentine" nor are they "bands" as instant claim 18 describes.



“Band” 178 for example, is described by Dinh as a “connecting segment” having a “large loop” configuration (column 7, lines 21-27). Nothing in Dinh or the cited art provide a basis for interpreting segment 178 to function as, or be a part of, a “serpentine band” as the instant claims describe. It is unclear, even in light of the Examiner’s markings and notations, how the connecting segment 178 of Dinh could be considered to have a serpentine configuration let alone be part of a serpentine band. The Examiner’s own highlighting on the marked copy of FIG. 6C appears to suggest that “band” 178 is actually a series of *discontinuous* structures that have no connectivity and thus do not form a band as described.

Though the elements 178 of Dinh are not serpentine bands as the present claims require, it is certainly recognized that the stent of Dinh does have different portions which may be described as bands of different geometries. Even when such bands are considered however, it is clear that, such bands are not arranged, or connected in the manner recited in the instant claims.

The proposed addition of the circumferentially and longitudinally offset “connectors” of FIG. 7 of Dang (see discussion and figure provided above) does nothing to address the failure of Dinh to teach or suggest all of the elements of the instant claims. Assuming *arguendo* that motivation exists to combine the connectors shown in Dang with the stent of Dinh, it still remains unclear under their individual or combined teaching, how or in what manner the connectors would provide the stent of Dinh with second serpentine bands that are characterized by a repeating pattern of two or more consecutive first connectors that extend distally from the second serpentine band followed by two or more second connectors that extend

proximally from the second serpentine band, wherein the two or more first connectors are circumferentially and longitudinally offset from the two or more second connectors.

Without some additional suggestion and/or teaching in the cited references or the art as a whole, there is nothing in the references which would suggest that merely inserting into the structure of Dinh connectors with circumferentially and longitudinally offset ends, as the Examiner proposes, will provide the Dinh stent with second serpentine bands that are provided with two or more first connectors, that are circumferentially and longitudinally offset from two or more second connectors as instant claim 18 describes.

Nowhere in the cited art is such a configuration taught or suggested. In light of this utter lack of disclosure in the cited references, it is clear that it is only when the references are viewed through the lens of hindsight that any motivation to combine the references becomes apparent. The use of such hindsight in attempting to establish a §103 obviousness rejection is impermissible (see also *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)).

Because the proposed combination of Dinh and Dang fail to teach or suggest all of the elements of instant claim 18, and those claims which depend therefrom, Applicants respectfully request withdrawal of the §103 rejection to claims 18-22.

**CONCLUSION**

For at least the reasons discussed above claims 1, 2, 4, 5, 8-11, 13, 14, and 17-22 are patentably distinct over the cited art. Consequently, reversal of the rejections is respectfully requested.

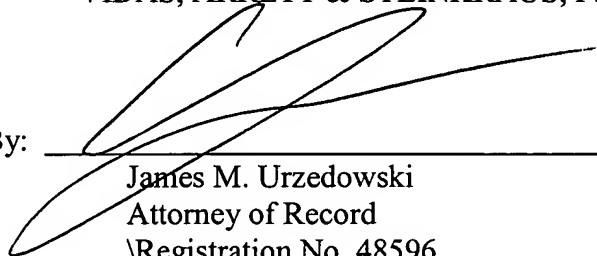
Respectfully submitted,

VIDAS, ARRETT & STEINKRAUS, P.A.

Date:

5/16/05

By:

  
\_\_\_\_\_  
James M. Urzedowski  
Attorney of Record  
Registration No. 48596

Suite 2000  
6109 Blue Circle Drive  
Minnetonka, MN 55343-9185  
Phone: (952) 563-3000  
Facsimile: (952) 563-3001

**(viii) Claims Appendix**

1. A stent having a proximal end and a distal end, the stent comprising:

a plurality of axially spaced serpentine bands, each serpentine band having a proximal and distal end and consisting of a plurality of interconnected struts, the struts of substantially the same length, serpentine bands which are adjacent one another connected one to the other; and

a plurality of wishbone connectors, each wishbone connector connecting two serpentine bands which are adjacent one another and having an elongate portion which is disposed between the two serpentine bands and does not overlap longitudinally with either of the two serpentine bands, the elongate portion having a proximal end and a distal end, the proximal end having two legs extending therefrom to one of the two serpentine bands and the distal end having two legs extending therefrom to the other of the two serpentine bands, the two legs extending from the proximal end of the elongate portion of each wishbone connector being circumferentially and longitudinally displaced from the two legs extending from the distal end of the elongate portion of the wishbone connector,

at least one wishbone connector connecting serpentine bands which are adjacent one another.

2. The stent of claim 1 wherein at least two wishbone connectors extend between each two adjacent serpentine bands.

4. The stent of claim 1 wherein the elongate portions of the connectors extend in a direction non-parallel to the longitudinal axis of the stent.

5. The stent of claim 4 wherein the elongate portions of the connectors have a plurality of turns.

8. The stent of claim 1 wherein each serpentine band comprises alternating peaks and troughs, the number of peaks in the stent being twice the number of wishbone connectors.

9. The stent of claim 1 wherein the width of the serpentine bands exceeds the width of the wishbone connectors.

10. A stent having a first proximal end and a distal end, the stent comprising:

a plurality of axially spaced serpentine bands, each serpentine band having a proximal end and a distal end, each serpentine band having a plurality of peaks and troughs, all of the peaks longitudinally aligned with one another, all of the troughs longitudinally aligned with one another, serpentine bands which are adjacent one another connected one to the other; and

a plurality of wishbone connectors, each wishbone connector connecting two serpentine bands which are adjacent one another and having an elongate portion which is disposed between the two serpentine bands and does not overlap longitudinally with either of the two serpentine bands, the elongate portion having a proximal end and a distal end, the proximal end having two legs extending therefrom to one of the two serpentine bands and the distal end having two legs extending therefrom to the other of the two serpentine bands, the two legs extending from the proximal end of the elongate portion of each wishbone connector being circumferentially and longitudinally displaced from the two legs extending from the distal end of the elongate portion of the wishbone connector,

at least one wishbone connector connecting serpentine bands which are adjacent one another.

11. The stent of claim 10 wherein at least two wishbone connectors extend between each two adjacent serpentine bands.

13. The stent of claim 10 wherein the elongate portions of the connectors extend in a direction non-parallel to the longitudinal axis of the stent.

14. The stent of claim 13 wherein the elongate portions of the connectors have a plurality of turns.

17. The stent of claim 10 wherein each serpentine band comprises alternating peaks and troughs, the number of peaks in the stent being twice the number of wishbone connectors.

18. A stent comprising a plurality of first and second alternating serpentine bands, the first serpentine bands being of one geometry and the second serpentine bands being of a geometry different than the first serpentine bands,

each of the first and second serpentine bands having a proximal end and a distal end, each second serpentine band connected to one proximally adjacent first serpentine band via a plurality of first connectors and to one distally adjacent first serpentine band via a plurality of second connectors,

each second serpentine band being characterized by a repeating pattern of two or more consecutive first connectors extending distally from the second serpentine band followed by two or more second connectors extending proximally from the second serpentine band, the two or more first connectors being circumferentially and longitudinally offset from the two or more second connectors.

19. The stent of claim 18 wherein the first serpentine bands are comprised of a plurality of interconnected first struts, the second serpentine bands are comprised of a plurality of interconnected second struts, the second struts being narrower than the first struts.

20. The stent of claim 18 wherein at least some of the second serpentine bands each comprise a plurality of openings of a first shape and a plurality of openings of a second shape, the second shape different from the first shape.

21. The stent of claim 18 wherein at least some of the second serpentine bands each comprise a plurality of openings some of which are non-parallel to the longitudinal axis of the second serpentine segment.

22. The stent of claim 18 wherein the first and second connectors are substantially straight.

**(ix) Evidence Appendix**

N/A

**(x) Related Proceedings Appendix**

N/A